

AMENDMENTS TO THE CLAIMS:

Please amend Claims 1 and 9 to read as follows.

1. (Currently Amended) An electromagnetic wave detector comprising:
conversion elements for converting incident electromagnetic waves or
radiations into an electric charge;

storage capacitors for storing the electric charge produced by said conversion
elements;

thin film read transistors connected respectively to the corresponding storage
capacitors ~~and each,~~ each of said read transistors having a threshold voltage and a gate to
which ~~ON~~ first and ~~OFF~~ second voltages are applied respectively in readout and storage
periods; and

thin film reset transistors connected respectively to the corresponding storage
capacitors ~~and each,~~ each of said reset transistors having a threshold voltage and a gate to
which ~~ON~~ third and ~~OFF~~ fourth voltages are applied respectively in reset and storage
periods,

wherein a gate potential between said read transistors and a gate potential
between said reset transistors can be independently controlled, and ~~the OFF voltage applied~~
~~to the gates of said thin film reset transistors is set to a value closer to the ON voltage~~
~~applied to the gates of said thin film reset transistors than the OFF voltage applied to the~~
~~gates of said thin film~~ the difference between the fourth voltage and the threshold voltage
of said reset transistors is smaller than the difference between the second voltage and the
threshold voltage of said read transistors.

2. (Original) An electromagnetic wave detector according to claim 1, wherein said conversion elements are adapted to absorb electromagnetic waves showing an energy level higher than visible light and convert them into an electric charge.

3. (Original) An electromagnetic wave detector according to claim 1, wherein said thin film read transistors and said thin film reset transistors have a non-monocrystalline semiconductor layer formed on an insulating substrate.

4. (Previously Presented) An electromagnetic wave detector according to claim 1, wherein said thin film read transistors and said thin film reset transistors are formed on an insulating substrate, and

wherein said conversion elements are formed on a substrate different from said insulating substrate and electrically connected to said thin film read transistors and said thin film reset transistors.

5. (Previously Presented) An electromagnetic wave detector according to claim 1, wherein said conversion elements comprise a semiconductor substrate having two opposite surfaces for converting electromagnetic waves into an electric charge, a common electrode arranged on the one surface of the semiconductor substrate and a plurality of electrodes formed on the other surface of the semiconductor substrate and separated from each other in correspondence to a plurality of two-dimensional pixels,

wherein said thin film read transistors and said thin film reset transistors are formed on an insulating substrate such that unit cells each including one of the thin film

read transistors and one of the thin film reset transistors are arranged on the insulating substrate in correspondence to the pixels, and

wherein said semiconductor substrate and said insulating substrate form a layered structure and said plurality of electrodes and said unit cells are electrically connected between the substrates.

6. (Original) An electromagnetic wave detector according to claim 5, wherein said semiconductor substrate is provided in plurality as arranged two-dimensionally on said insulating substrate to form a layered structure and the common electrodes of the semiconductor substrates are mutually short-circuited.

7. (Original) An electromagnetic wave detector according to claim 5, wherein a high voltage is applied to the common electrode of said conversion elements and a shielding conductor is arranged near the commons electrode.

8. (Original) An electromagnetic wave detector according to claim 1, wherein said thin film read transistors and said thin film reset transistors are formed on an insulating substrate provided with a driver circuit for driving the thin film read transistors and the thin film reset transistors and with a read circuit for reading signals from said thin film read transistors.

9. (Currently Amended) An electromagnetic wave detector comprising:
conversion elements for converting incident electromagnetic waves or
radiations into an electric charge;

storage capacitors for storing the electric charge produced by said conversion
elements; and

thin film reset transistors connected respectively to the corresponding storage
capacitors and each having a gate to which ~~ON~~ third and ~~OFF~~ fourth voltages are applied
respectively in reset and storage periods,

wherein any excessive electric charge is discharged by way of said thin film
reset transistors in each storage period.

10. (Original) An electromagnetic wave detector according to claim 9,
wherein said conversion elements are adapted to absorb electromagnetic waves showing an
energy level higher than visible light and convert them into an electric charge.

11. (Original) An electromagnetic wave detector according to claim 9,
wherein said thin film reset transistors have a non-monocrystalline semiconductor layer
formed on an insulating substrate.

12. (Previously Presented) An electromagnetic wave detector according to
claim 9, wherein said thin film read transistors and said thin film reset transistors are
formed on an insulating substrate, and

wherein said conversion elements are formed on a substrate different from said insulating substrate and electrically connected to said thin film read transistors and said thin film reset transistors.

13. (Previously Presented) An electromagnetic wave detector according to claim 9, wherein said conversion elements comprises a semiconductor substrate having two opposite surfaces for converting electromagnetic waves into an electric charge, a common electrode arranged on the one surface of the semiconductor substrate and a plurality of electrodes formed on the other surface of the semiconductor substrate and separated from each other in correspondence to a plurality of two-dimensional pixels,

wherein thin film read transistors and said thin film reset transistors are formed on an insulating substrate such that unit cells each including one of the thin film read transistors and one of the thin film reset transistors are arranged on the insulating substrate in correspondence to the pixels, and

wherein said semiconductor substrate and said insulating substrate form a layered structure and said plurality of electrodes and said unit cells are electrically connected between the substrates.

14. (Original) An electromagnetic wave detector according to claim 13, wherein said semiconductor substrate is provided in plurality as arranged two-dimensionally on said insulating substrate to form a layered structure and the common electrodes of the semiconductor substrates are mutually short-circuited.

15. (Original) An electromagnetic wave detector according to claim 13, wherein a high voltage is applied to the common electrode of said conversion elements and a shielding conductor is arranged near the common electrode.

16. (Original) An electromagnetic wave detector according to claim 9, wherein thin film read transistors and said thin film reset transistors are formed on an insulating substrate provided with a driver circuit for driving the thin film read transistors and the thin film reset transistors and with a read circuit for reading signals from said thin film read transistors.